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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,269	10/04/2006	Yusuke Konagai	YAMA:133	9215
37013 7590 05/29/2008 ROSSI, KIMMS & McDOWELL LLP. P.O. BOX 826 ASHBURN, VA 20146-0826				
EXAMINER				
MONIKANG, GEORGE C				
ART UNIT		PAPER NUMBER		
2615				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,269

Applicant(s)

KONAGAI, YUSUKE

Examiner

GEORGE C. MONIKANG

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/23/2008, 3/14/2008, 2/26/2008.

DETAILED ACTION

Response to Arguments

Applicant's amendments necessitated new grounds of rejection.

Claim Objections

1. Claims 1 & 3 are objected to because of the following informalities: The applicant inserts the independent claim has claim 3 and claim 1 has a dependent claim to claim 3. The examiner advises the applicant to renumber the claims putting the independent claims first then followed by the subsequent dependent claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims 1-5 & 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatae, US Patent 5,675,655.

Re Claim 3, Hatae discloses an audio signal supply apparatus, for a speaker unit comprising a plurality of loudspeaker units, comprising: a branching unit that branches an input audio signal into two or more signals (col. 4, lines 50-54); a delay unit that provides a first delay for one of the branched audio signals and supplies first delay

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processed signals to the loudspeaker unit in accordance with first provided directivity control information (col. 7, lines 51-65; col. 4, lines 50-54); a second delay unit that provides a second delay for another of the branched audio signals and supplies second delay processed signals to the loudspeaker units in accordance with second provided directivity control (col. 7, lines 51-65; col. 4, lines 50-54); a directivity control unit that generates the first directivity control information and the second directivity control information so that a directional characteristic of a speaker unit obtained by the first differs from the directional characteristic of a speaker unit obtained by the second and supplies the generated information respectively to the delay unit and the second delay unit (col. 4, lines 50-54); and an adding unit that adds the first and second delay processed signals applied to each of the respective loudspeakers (col. 4, lines 64-67); but fails to disclose the loudspeaker unit being a loudspeaker array.

However, official notice is taken that both the concepts and advantages of providing a loudspeaker array are well known in the art. Thus it would have been obvious to modify the loudspeaker of Hatae into a loudspeaker array unit to provide better sound quality.

Re Claim 1, Hatae discloses the audio signal supply apparatus according to claim 3, further comprising: a weighting unit that weights each of the delay processed audio signals from the first and second delay units to be supplied to the loudspeaker units accordance with provided gain control (col. 7, lines 29-37; col. 7, lines 47-65; variable amplifiers); and a storage unit that stores the first control information (col. 4, lines 50-54: storage will be required to be able to switch between narrow and wide

directivities), which sets the directional characteristic of the array speaker unit as a narrow directivity (col. 4, lines 50-54), and the second control information, which sets the directional characteristic of the array speaker unit as a wide directivity (col. 4, lines 50-54), wherein the directivity control unit instruction, also the gain control information and supplies the gain control information to the weighting unit (col. 4, lines 50-54; col. 7, lines 29-37: variable amplifiers).

Re Claim 2, Hatae discloses the audio signal supply apparatus according to claim 1, wherein the amount of delays obtained by the second is 0 or an equal amount (col. 7, lines 47-65).

Claim 4 has been analyzed and rejected according to claim 3.

Claim 5 has been analyzed and rejected according to claim 2.

Claim 7 has been analyzed and rejected according to claim 1.

Re Claim 8, Hatae discloses the audio signal supply apparatus according to claim 4, wherein the directional characteristic of the array speaker unit obtained through the first delay overlap with the directional characteristic of the array speaker unit obtained through the second delay (fig. 5).

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatae, US Patent 5,675,655 as applied to claim 3 above, in view of Yanagawa et al, US Patent 5,233,664. (The Yanagawa et al reference is cited in IDS filed 10/1/2007)
5. Re Claim 6, Hatae discloses the audio signal apparatus of claim 3; but fails to disclose a frequency property correction unit that corrects frequency property of audio signals. However, Yanagawa et al does (fig. 1: DF1-DFm).
6. Taking the combined teachings of Hagae and Yanagawa et al as a whole, one skilled in the art would have found it obvious to modify the audio signal apparatus of Hatae with a frequency property correction unit that corrects frequency property of audio signals as taught in Yanagawa et al (fig. 1: DF1-DFm) to filter out noise.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE C. MONIKANG whose telephone number is (571)270-1190. The examiner can normally be reached on M-F, alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George C Monikang/
Examiner, Art Unit 2615

5/27/2008

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/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2615